

Work Order ID 58811

Wednesday, May 19, 2010 9:23:16 AM



Page 1

Item ID: D350-636-013

Accept



Setup Start



Revision ID:

Item Name: Skidtube LH

Stop



Start Date: 5/19/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 5/26/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

RP

Date:

5-19-10

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D2750

Rev F

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-013 CHG 005

5/10/06/15

9/10/06 BG 10/06/11

B58811

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1- Mark cut line on aft end of D2600-3-Bent using Jig DT 8150. Cut to length as per Dwg D2750. Deburr end

2-Drill pilot holes as per Dwg D2750 sheet 6 (D2750-3 details).Drill using drill Jig DT8150 & DT8864 .

3- Mark fwd end for cutting using Drill Jig DT 8150 & DT8864 and cut as per dwg D2750.Deburr.

4- Drill fwd step holes using DT9616. Ensure proper positioning.

5-Drill pilot holes for the blade fitting bolt holes using DT8983. Open to 0.500".

6- locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting.

7-Open up holes for SECTION AW-AW to 0.375" (2 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open holes for ground handling and detail T to 0.500" (8 holes per side)

8-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 and open to 0.297"

9-Open up holes of Detail S to 0.297" (total of 2 holes per side)

10-Weld D2744 Cap as per Dwg D2750 and QSI 004.Fill grooves in bend left from bending as per QSI 004

A/R□□□ Aluminum Rod

□ m112860

BE 10/05/28

10-5-28

(P10)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D350-636-013 PAR #: _____ Fault Category: Skid tubes NCR: Yes No DQA: _____ Date: 10-05-27
 Resolution: rework Disposition: rework QA: N/C Closed: Yes Date: 10/06/17

NCR: <u>58811</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
<u>10-05-27</u>	<u>110.8</u>	<u>4 aft wear plate holes were drilled using the RH sig. Holes are only #30 size Pilot holes</u> <u>VC: LAA: Employee approved.</u>	<u>[Signature]</u> <u>10/5/12</u>	<u>C sink the 4 holes & fill with weld per Q31004.</u> <u>grind flush</u> <u>re-drill LH holes.</u>	<u>BE</u> <u>10/05/28</u> <u>[Signature]</u> <u>10-5-28</u>	<u>S</u> <u>10/05/31</u>	<u>[Signature]</u> <u>10/5/12</u>	<u>[Signature]</u> <u>10-05-27</u>

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

11-Grind welds flush as per Dwg D2750

12- scribe batch #.

10/5/31

120



QC

Quality Control

QC10- Inspect visual per QS1004- ground welds

0.00

S 10/5/31

Memo

0.00

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

S 10/5/31

Memo

0.00

②

W/O:		WORK ORDER CHANGES					
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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

140

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

1

11/05/21

150

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

(ix)

MB 10-05-31

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open up holes section AW-AW 0.500" (4 per side) as per dwg D2750

2- Open holes section AV-AV 0.3125" (4 per side)

3-Open up holes of Detail T and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750.

4-Chamfer holes of section AW-AW, AV-AV, T and ground handling. (welding instructions on sheet 10)

5-Deburr and blow out all chips from inside of tube. Prepare tube for welding, remove alodine as required.

6-Bond web D2739 in place as per QSI 015

A/R ☐☐☐ Sikaflex-291 batch: 1113435 ☐☐☐exp. date: 01/1/20

7- Weld spacers D3490-1, D3490-5 and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 10)

A/R ☐☐☐ Aluminum Rod batch: 1114242 86 10/06/03

8-Grind welds flush as per Dwg D2750

9-Spot face ground handling holes (total of 4 places per side) as per dwg D2750

10-Deburr holes

M 10/5/31

M 10/06/03

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Run Start



Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

170



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

S 10/06/03

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

S 10/06/03

190



HandFinish

Hand Finishing

Pressure Wash per QSI005 4.3

0.00

Memo

0.00

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

① Bk 1068

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200 Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum <i>M1111841</i> Memo START TIME: <i>1:30PM</i> OVEN TEMPERATURE: <i>320°C</i> FINISH TIME: <i>2:00PM</i>	0.00 0.00	<i>=> 10/06/05</i>			<i>1</i>	<i>0</i>		
210 QC Quality Control	QC3- Inspect Part Finish Memo Inspect for foreign object per QSI 024	0.00 0.00	<i>m/ 10 06 10 ①</i>						
220 HandFinish Hand Finishing	HandFinishing Memo I-Install inserts as per dwg D2750	0.00 0.00	<i>m/ 10 06 10 ①</i>						

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Reference:

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Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230	HandFinishing	0.00							
	HandFinish	0.00				ml	10	06	10 (1)
Hand Finishing	Memo								
	1-Inspect for Foreign Objects								
	2-Spray inside of tube with "LPS-3" batch:								
	3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750 SIKA FLEX 241 BATCH: <u>113435</u> EXP DATE: <u>10/11</u>								
	4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: <u>114189</u>								
	5-Coat all exposed fasteners with "LPS Procyon" batch: <u>104251</u>								
240	QC5- Inspect part completeness to step on W/O	0.00							
	QC	0.00							
Quality Control	Memo								

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

250

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

10-6-11 SP

260

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

8/10/06/15

ⓧ

270

Packaging

0.00



Packaging

Memo

0.00

Packaging

Package as per PPP D350-636-013

REV 4

P 10/10/11/100

W/O:		WORK ORDER CHANGES					
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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/06/17 *[Signature]*
ME
10-6-16

W/O:		WORK ORDER CHANGES					
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Picklist Print

Wednesday, May 19, 2010 9:23:20 AM

Page 1

Work Order ID: 58811

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Comments: IPP Rev:H 02.09.25 Rearranged procedure steps KJ
IPP rev I 06.03.30 Per rev. D dwg EC
IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Date: 5/19/2010

Required Date: 5/26/2010

Start Qty: 1.00

Required Qty: 1.00

D2600-3-BENT

Manufactured No

110

Each

2.0000

1



Extrusion Bent

Location

Loc Qty

Loc Code

LG

2

55462

1

57538

1

D3493-1

Manufactured No

110

Each

33.0000

2



Washer

Location

Loc Qty

Loc Code

ST065

33

57825

33

D2739

Manufactured No

160

Each

1.0000

1



350 I Beam

Location

Loc Qty

Loc Code

LG

1

57948

1

D2744

Manufactured No

160

Each

28.0000

1



Cap

Location

Loc Qty

Loc Code

LG

28

47488

10

51922

18

B 58903 DM 10/5/31

10-6-17

8

B58904 M 10/4/31

1 BE 10/05/28

W/O:		WORK ORDER CHANGES					
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 IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
 IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Qty: 1.00

Required Qty: 1.00

D3490-1 Manufactured No 160 Each 25.0000 4



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

25

57723

25

259228

*4

BE 10/06/02

D3490-5 Manufactured No 160 Each 46.0000 4



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

46

43015

6

46490

40

2

BE 10/06/02

D2743 Manufactured No 220 Each 114.0000 8



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

114

50281

10

52310

24

57953

80

3

BE 10/06/02

ALS4-1032-225 Purchased No 230 Each 7,062.000 38



Insert

Location

Loc Qty

Loc Code

PK011

7062

110768

7062

MA 10-06-10

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Start Date: 5/19/2010

Required Date: 5/26/2010

Start Qty: 1.00

Required Qty: 1.00

AN3C5A Purchased No 230 Each 453.0000 34



Bolt

3*114808

Location	Loc Qty	Loc Code
ST350	325	
114330	125	
114523	200	
ST351	128	
113121	10	
114108	45	
114181	73	

mt 10-06-10

AN3C6A Purchased No 230 Each 565.0000 4



BOLT

Location	Loc Qty	Loc Code
ST351	565	
111982	565	

mt 10-06-10

AN6C44A Purchased No 230 Each 101.0000 4



BOLT

Location	Loc Qty	Loc Code
FG	2	
103964	2	
ST344	99	
111649	2	
114455	47	
114653	50	

mt 10-06-10

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IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Date: 5/19/2010

Required Date: 5/26/2010

Start Qty: 1.00

Required Qty: 1.00

AN8C35A

Purchased

No

230

Each

56.0000

1



BOLT

Location

Loc Qty

Loc Code

FP

6

110847

6

ST346

50

114442

50

Purchased

No

230

Each

0.0000

38

AN960C16L



washer

AN960C816L

Purchased

No

230

Each

106.0000

1



WASHER

Location

Loc Qty

Loc Code

ST348

106

110584

100

111424

6

Manufactured

No

230

Each

146.0000

8

D2745



Bushing

Location

Loc Qty

Loc Code

ST023

146

52311

69

57914

77

10-06-10

10-06-10

10-06-10

10-06-10

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Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 5

Work Order ID: 58811



Parent Item: D350-636-013



Parent Item Name: Skidtube LH

Start Date: 5/19/2010

Required Date: 5/26/2010

Comments: IPP Rev:H 02.09.25 Rearranged procedure steps KJ
IPP rev I 06.03.30 Per rev. D dwg EC
IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Qty: 1.00

Required Qty: 1.00

D3488-041 Manufactured No 230 Each 29.0000 1



Blade Fitting Assembly, LH

Location Loc Qty Loc Code

FP 19

53915 19

FP007 10

56052 10

D3492-041 Manufactured No 230 Each 98.0000 8



Plug Assembly

Location Loc Qty Loc Code

FP013 98

57915 38

58180 60

D3492-1 Manufactured No 230 Each 58.0000 8



Plug

Location Loc Qty Loc Code

FP 58

47658 24

48274 34

D3492-5 Manufactured No 230 Each 39.0000 8



Plug

Location Loc Qty Loc Code

FP 39

47659 39

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W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Wednesday, May 19, 2010 9:23:20 AM

Page 6

Work Order ID: 58811

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Comments: IPP Rev:H 02.09.25 Rearranged procedure steps KJ
IPP rev I 06.03.30 Per rev. D dwg EC
IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Date: 5/19/2010

Required Date: 5/26/2010

Start Qty: 1.00

Required Qty: 1.00

D3535-25

Manufactured No

230

Each

13.0000

1



Wearshoe

Location

Loc Qty

Loc Code

FP18

13

57943

13

D3536-25

Manufactured No

230

Each

6.0000

1



Gasket

Location

Loc Qty

Loc Code

FP12

6

57944

6

D3537-1

Manufactured No

230

Each

24.0000

3



Wearpad

Location

Loc Qty

Loc Code

FP

1

55465

1

FP17

23

57256

23

D3631-1

Manufactured No

230

Each

206.0000

8



Washer

Location

Loc Qty

Loc Code

ST076

206

52693

206

M 10.06.10

M 10.06.10

M 10.06.10

M 10.06.10

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Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Picklist Print

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Page 7

Work Order ID: 58811



Parent Item: D350-636-013



Parent Item Name: Skidtube LH

Start Date: 5/19/2010

Required Date: 5/26/2010

Comments: IPP Rev:H 02.09.25 Rearranged procedure steps KJ
IPP rev I 06.03.30 Per rev. D dwg EC
IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Qty: 1.00

Required Qty: 1.00

D3791-1 Manufactured No 230 Each 5.0000 1



Wearplate

B# 58906

Location

Loc Qty

Loc Code

FP17

5

56299

5

D3793-1 Manufactured No 230 Each 10.0000 1



Wearshoe

B# 59151

Location

Loc Qty

Loc Code

FP18

10

56300

1

57945

9

D3793-3 Manufactured No 230 Each 11.0000 1



Wearshoe

B# 59152

Location

Loc Qty

Loc Code

FP19

11

57947

11

D3794-1 Manufactured No 230 Each 32.0000 1



Gasket

Location

Loc Qty

Loc Code

FP010

26

57942

26

FP014

6

57537

6

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Page 8

Work Order ID: 58811

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Comments: IPP Rev:H 02.09.25 Rearranged procedure steps KJ
IPP rev I 06.03.30 Per rev. D dwg EC
IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Date: 5/19/2010

Required Date: 5/26/2010

Start Qty: 1.00

Required Qty: 1.00

D3794-3 Manufactured No 230 Each 14.0000 1



Gasket

B# 59153

Location

Loc Qty

Loc Code

FP18

14

56066

14

MS21043-6 Purchased No

230 Each

826.0000

4



NUT

Location

Loc Qty

Loc Code

ST301

826

112314

826

MS21083C8 Purchased No

230 Each

41.0000

1



NUT

Location

Loc Qty

Loc Code

ST303

41

113845

11

114523

30

NAS1611-005 Purchased No

230 Each

309.0000

8



O-RING

Location

Loc Qty

Loc Code

FP002

309

106099

209

114220

100

M/ 10-06-10

M/ 10-06-10

M/ 10-06-10

M/ 10-06-10

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Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Work Order ID: 58811



Parent Item: D350-636-013



Parent Item Name: Skidtube LH

Start Date: 5/19/2010

Required Date: 5/26/2010

Comments: IPP Rev:H 02.09.25 Rearranged procedure steps KJ
IPP rev I 06.03.30 Per rev. D dwg EC
IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased No

230

Each

306.0000

8



O-RING

Location

Loc Qty

Loc Code

FP

306

110715

100

110915

206

~~230~~
260

Each

113.0000

2

AN8C21A

Purchased No



BOLT

Location

Loc Qty

Loc Code

ST345

113

111605

23

113558

50

114653

40

260

Each

106.0000

1

AN960C816L

Purchased No



WASHER

Location

Loc Qty

Loc Code

ST348

106

110584

100

111424

6

260

Each

28.0000

1

D2741

Manufactured No



Blade, 350 Skidtube

Location

Loc Qty

Loc Code

ST466

28

55905

28

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Work Order ID: 58811



Parent Item: D350-636-013



Parent Item Name: Skidtube LH

Start Date: 5/19/2010

Required Date: 5/26/2010

Comments: IPP Rev:H 02.09.25 Rearranged procedure steps KJ
 IPP rev I 06.03.30 Per rev. D dwg EC
 IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
 IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Qty: 1.00

Required Qty: 1.00

D3672-1 Manufactured No 260 Each 1,375.000 4



Phenolic Washer

Location	Loc Qty	Loc Code
ST077	1375	
51674	375	
52505	1000	

10-02-10

D3672-13 Purchased No 260 Each 894.0000 2



Phenolic Washer

Location	Loc Qty	Loc Code
ST077	894	
54363	894	

16-6-11

MS21083C8 Purchased No 260 Each 41.0000 1



NUT

Location	Loc Qty	Loc Code
ST303	41	
113845	11	
114523	30	

1114934 10-6-11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN6C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- 1) MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- 8) WELD PER DART QSI 004
- 9) INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- 10) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 11) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 13) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SHOP COPY
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 58811
BJ 105-19

RELEASED
68-07-22-10

F	INCORPORATE DSI 9413: QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS, CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H6L; REMOVE D2741; QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
DE APPR.			
DATE	08.07.16		

DART AEROSPACE USA, INC.
PORT HADLOCK, WA

DRAWING NO. **D2750** REV. F
SHEET 1 OF 11
TITLE **350 SKIDTUBE ASSEMBLY** SCALE NTS

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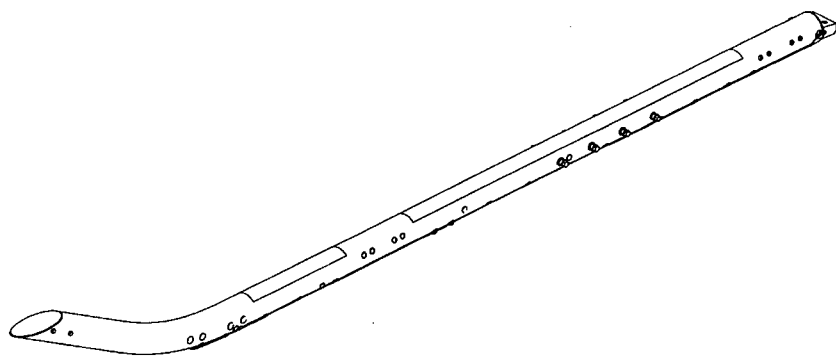
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

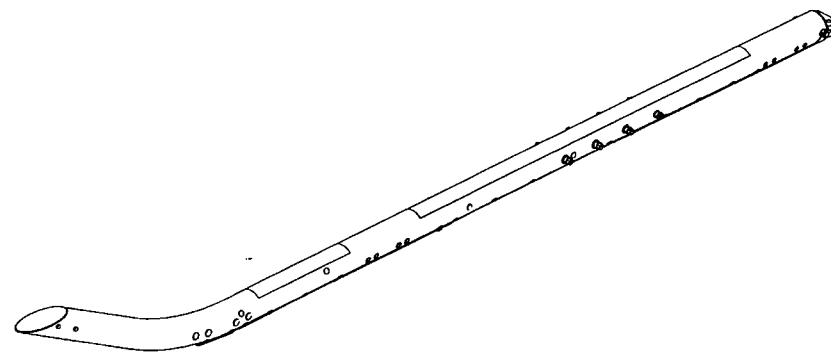
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-041 350 SKIDTUBE ASSEMBLY, LH



D2750-042 350 SKIDTUBE ASSEMBLY, RH

RELEASED
68-09-22-11

W/O 58811

DESIGN	PCY	DART AEROSPACE USA, INC.	
DRAWN	RM	PORT HADLOCK, WA	
CHECKED	RM	DRAWING NO.	REV. F
MFG. APPR.	RM	D2750	SHEET 2 OF 11
APPROVED	RM	TITLE	SCALE
DE APPR.	RM	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC.</small> <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

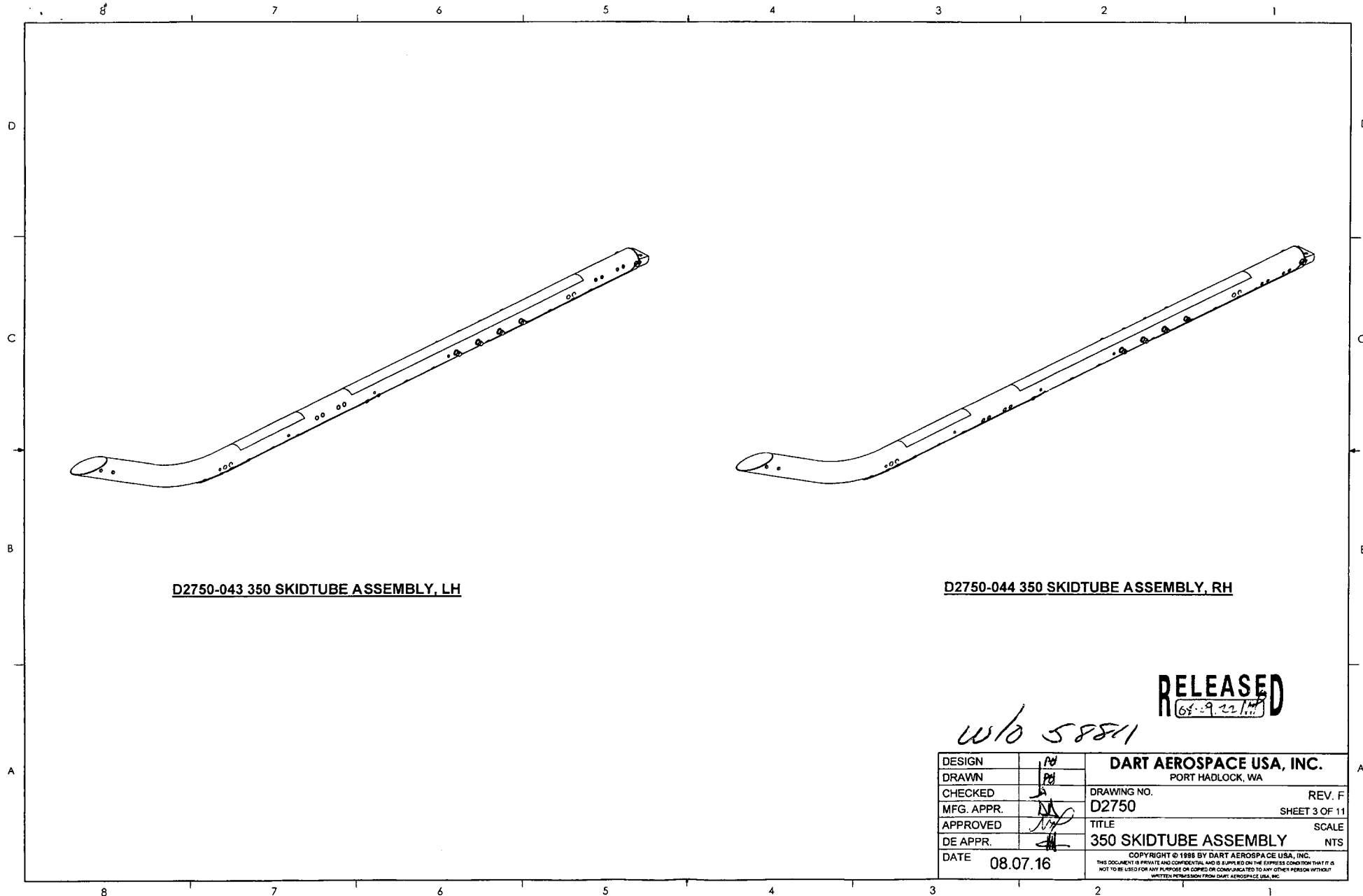
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-043 350 SKIDTUBE ASSEMBLY, LH

D2750-044 350 SKIDTUBE ASSEMBLY, RH

RELEASED
68-9-22/100

w/b 58511

DESIGN	PO	DART AEROSPACE USA, INC.	
DRAWN	PO	PORT HADLOCK, WA	
CHECKED	PO	DRAWING NO.	REV. F
MFG. APPR.	MA	D2750	SHEET 3 OF 11
APPROVED	MA	TITLE	SCALE
DE APPR.	MA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1988 BY DART AEROSPACE USA, INC.</small> <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

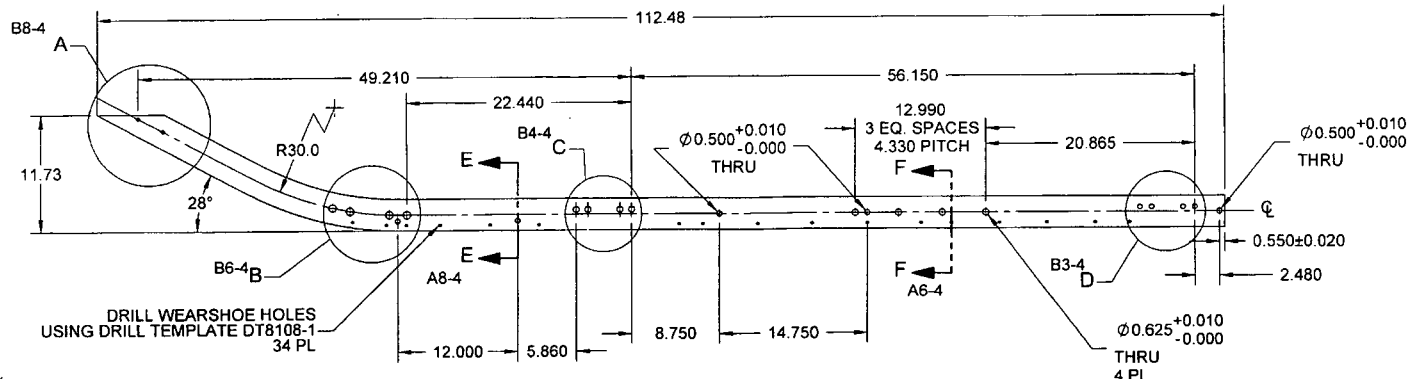
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

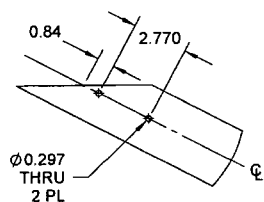
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

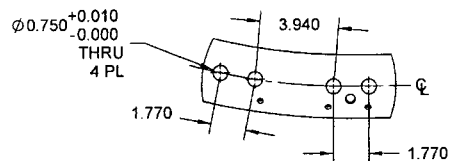
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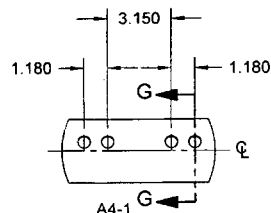
D2750-1 LH SKIDTUBE



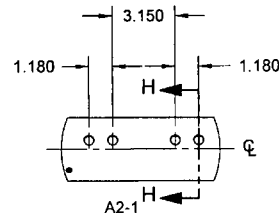
DETAIL A
SCALE 2X



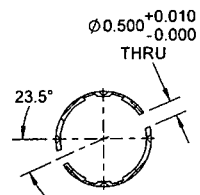
DETAIL B
SCALE 2X



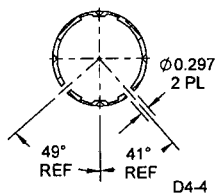
DETAIL C
SCALE 2X



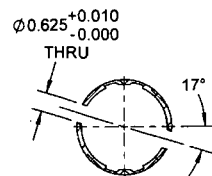
DETAIL D
SCALE 2X



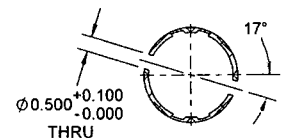
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

W/O 58811

RELEASED

DESIGN		DART AEROSPACE USA, INC.	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO. D2750	REV. F
MFG. APPR.		SHEET 4 OF 11	
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	
DATE	08.07.16	NTS	
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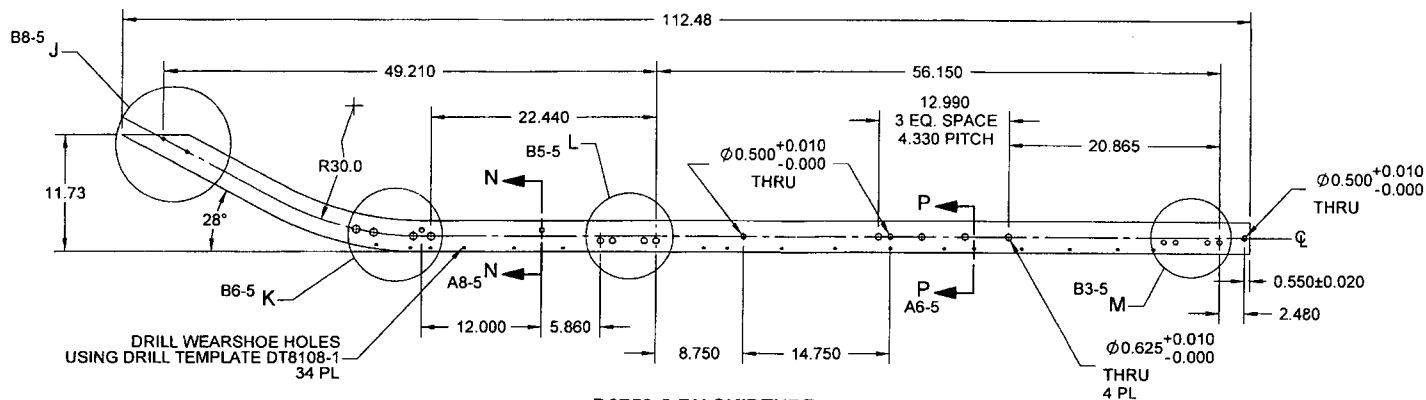
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

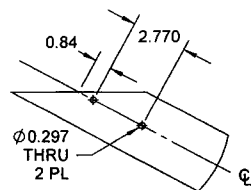
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

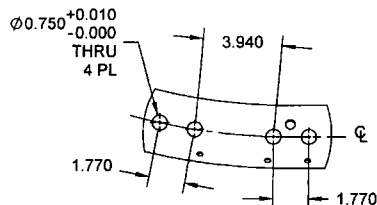
NOTE: Date & initial all entries



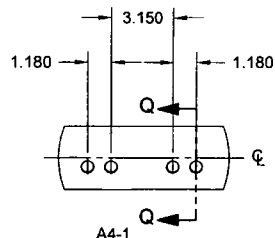
D2750-2 RH SKIDTUBE



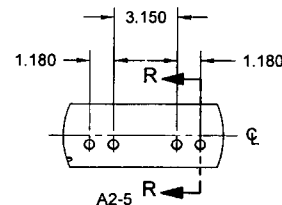
DETAIL J
SCALE 2X



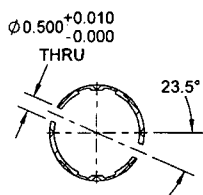
DETAIL K
SCALE 2X



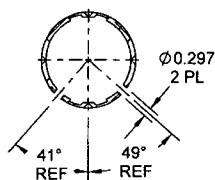
DETAIL L
SCALE 2X



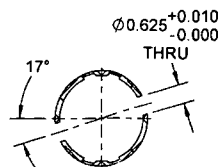
DETAIL M
SCALE 2X



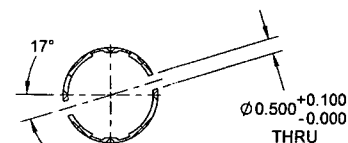
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

W/O 58811

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DESIGN	DART AEROSPACE USA, INC.
DRAWN	PORT HADLOCK, WA
CHECKED	DRAWING NO. D2750
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DE APPR.	TITLE 350 SKIDTUBE ASSEMBLY
DATE 08.07.16	SCALE NTS

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

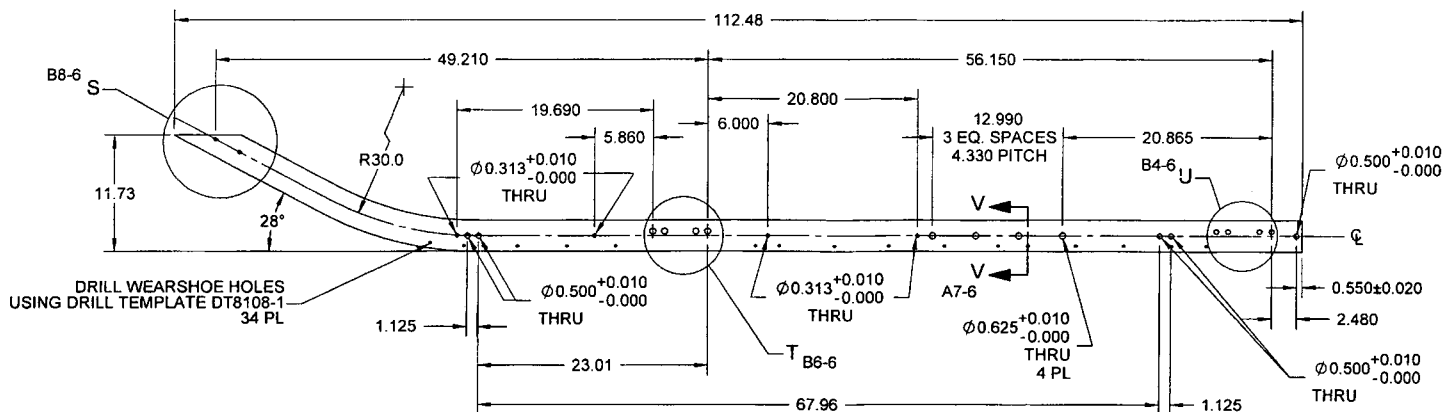
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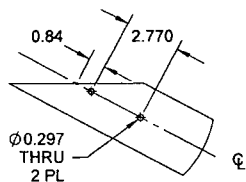
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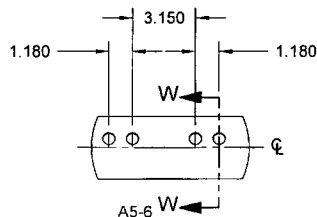
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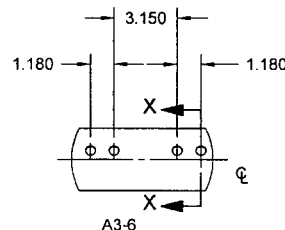
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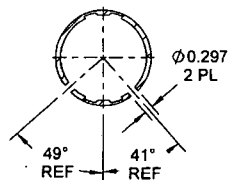
DETAIL S
SCALE 2X



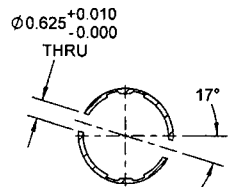
DETAIL T
SCALE 2X



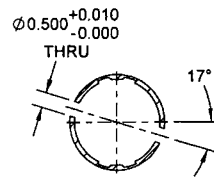
DETAIL U
SCALE 2X



SECTION V-V
SCALE 3X, 17 PL



SECTION W-W
SCALE 3X, 4 PL



SECTION X-X
SCALE 3X, 4 PL

RELEASED
08 A 23 11/11

w/0 5884

DESIGN		DART AEROSPACE USA, INC.	
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MFG. APPR.		SHEET 6 OF 11	
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DE APPR.		350 SKIDTUBE ASSEMBLY	
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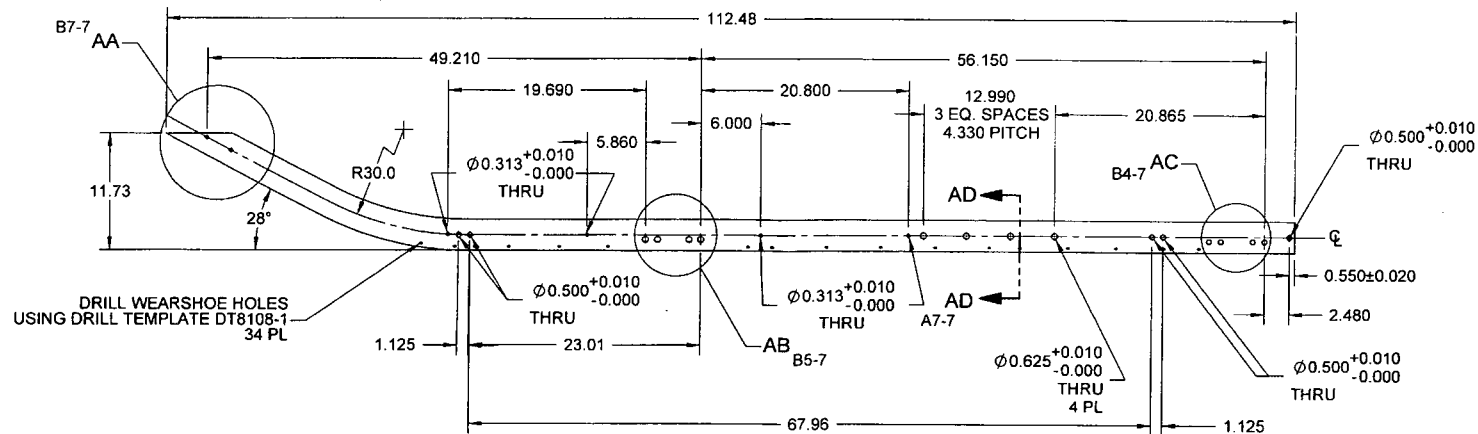
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

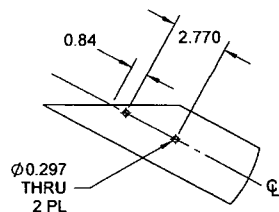
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

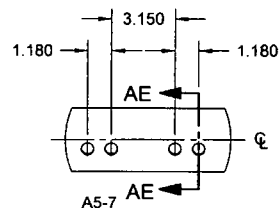
NOTE: Date & initial all entries



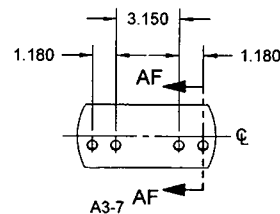
D2750-4 RH SKIDTUBE



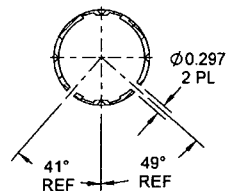
DETAIL AA
SCALE 2X



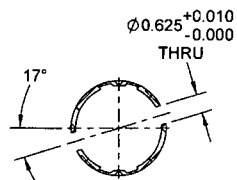
DETAIL AB
SCALE 2X



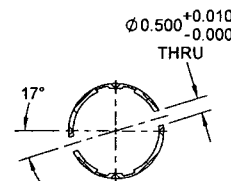
DETAIL AC
SCALE 2X



SECTION AD-AD
SCALE 3X, 17 PL









SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

W/O 58811

RELEASED
06-04-22-116

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MFG. APPR.		D2750	SHEET 7 OF 11
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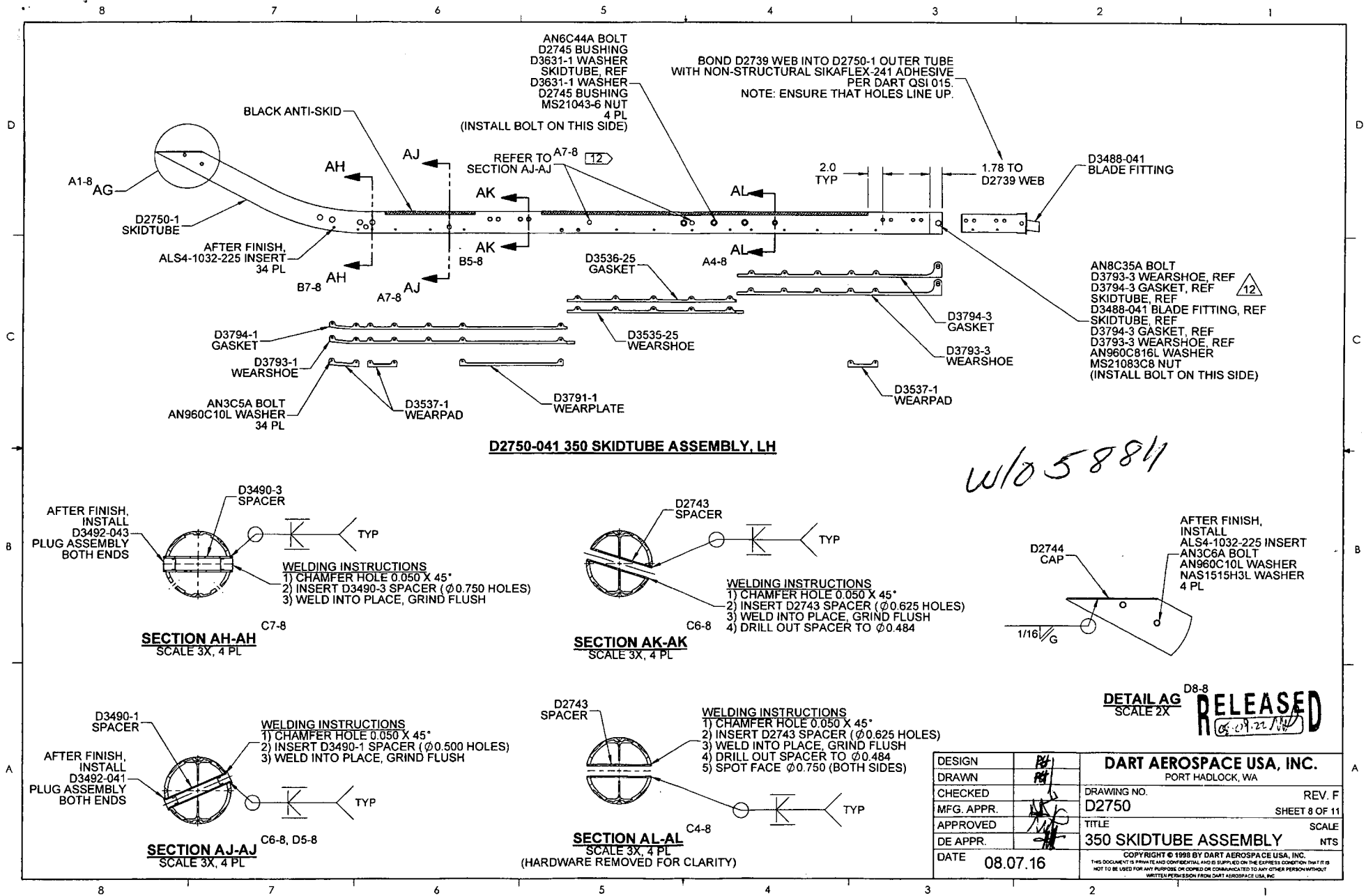
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DETAIL AG D8-8
SCALE 2X
RELEASED
06-07-22/16

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MFG. APPR.	BY	D2750	SHEET 8 OF 11
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

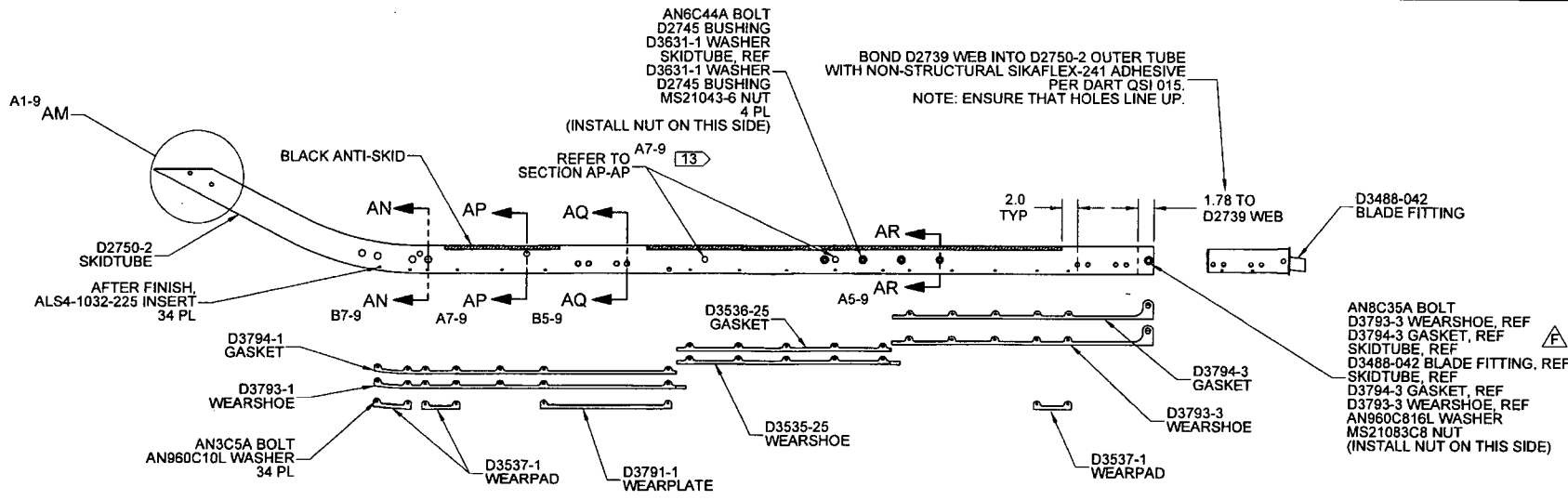
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

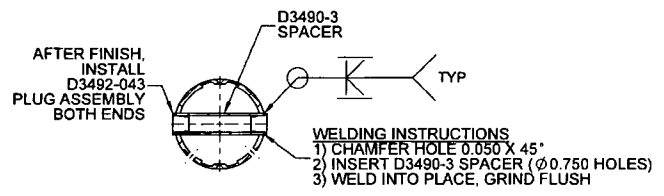
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

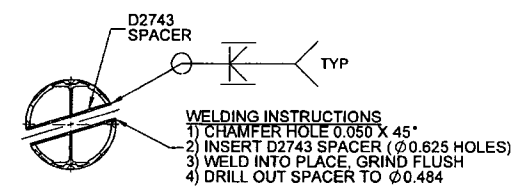
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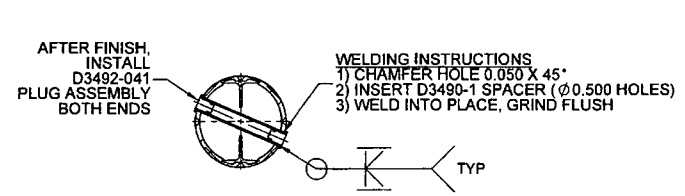
D2750-042 350 SKIDTUBE ASSEMBLY, RH



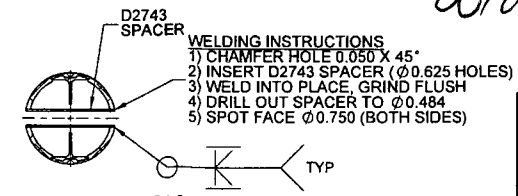
SECTION AN-AN
SCALE 3X, 4 PL



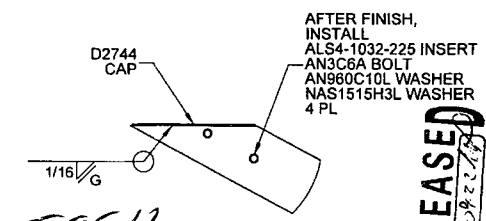
SECTION AQ-AQ
SCALE 3X, 4 PL



SECTION AP-AP
SCALE 3X, 4 PL



SECTION AR-AR
SCALE 3X, 4 PL
(HARDWARE REMOVED FOR CLARITY)



DETAIL AM
SCALE 2X

W/O 58811

RELEASED
08-09-2017

DESIGN	PH	DART AEROSPACE USA, INC.	
DRAWN	PH	PORT HADLOCK, WA	
CHECKED	AK	DRAWING NO.	REV. F
MFG. APPR.	MD	D2750	SHEET 9 OF 11
APPROVED	MD	TITLE	SCALE
DE APPR.	MD	350 SKIDTUBE ASSEMBLY	NTS
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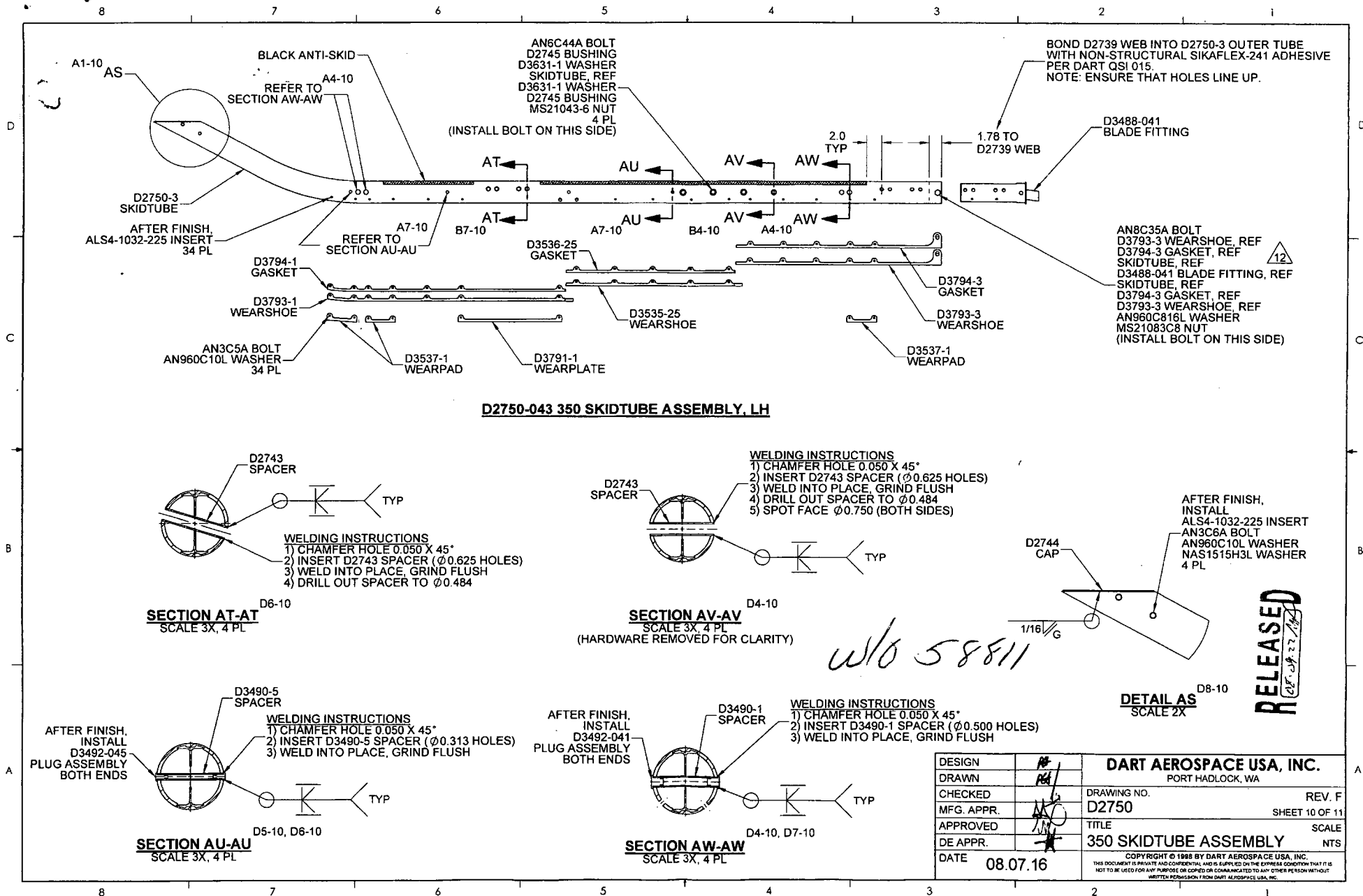
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

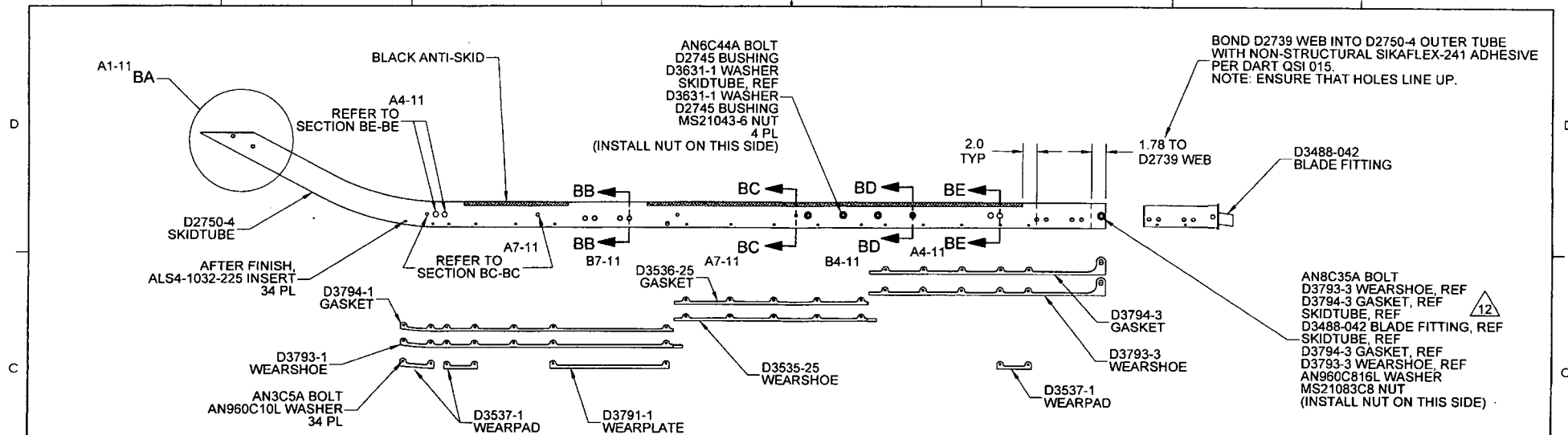
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

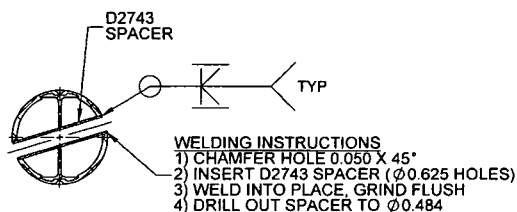
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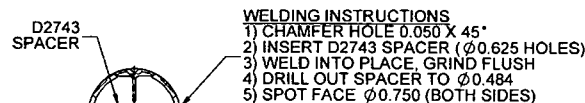
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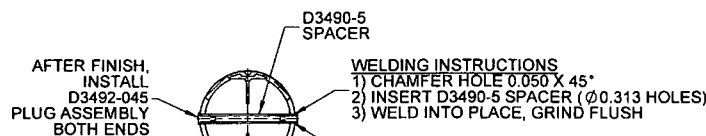
D2750-044 350 SKIDTUBE ASSEMBLY, RH



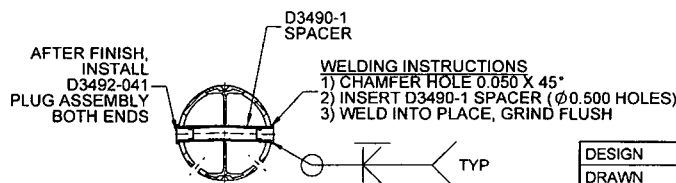
SECTION BB-BB
SCALE 3X, 4 PL



SECTION BD-BD
SCALE 3X, 4 PL
(HARDWARE REMOVED FOR CLARITY)

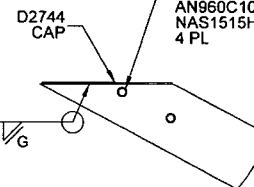


SECTION BC-BC
SCALE 3X, 4 PL



SECTION BE-BE
SCALE 3X, 4 PL

AFTER FINISH,
INSTALL
ALS4-1032-225 IN SERT
AN3C6A BOLT
AN960C10L WASHER
NAS1515H3L WASHER
4 PL



DETAIL BA
SCALE 2X

DESIGN	HA	DART AEROSPACE USA, INC.	
DRAWN	HA	PORT HADLOCK, WA	
CHECKED	HA	DRAWING NO.	REV. F
MFG. APPR.	HA	D2750	SHEET 11 OF 11
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DE APPR.	HA	350 SKIDTUBE ASSEMBLY	NTS
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W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 233

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barday Elliott
Job number: 53816
Part number: D350-686 014
Description: 350 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminium
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier Pat. Dunn Date of Test Coupon 10.06.01

Welder Barday Elliott Date of Test Coupon 10.06.01

The above named individual is qualified in accordance with AWS D17.1.2001 to weld